

COMMONWEALTH OF VIRGINIA
Department of Environmental Quality
Piedmont Regional Office

STATEMENT OF LEGAL AND FACTUAL BASIS

Waste Management of Virginia, Inc.
Maplewood Recycling and Disposal Facility
20221 Maplewood Road - Jetersville, Virginia 23870
Permit No. PRO 30993

Title V of the 1990 Clean Air Act Amendments required each state to develop a permit program to ensure that certain facilities have federal Air Pollution Operating Permits, called Title V Operating Permits. As required by 40 CFR Part 70 and 9 VAC 5 Chapter 80, Maplewood Recycling & Disposal Facility has applied for a Title V Operating Permit for its Jetersville facility. The Department has reviewed the application and has prepared a Title V Operating Permit.

Engineer/Permit Contact:_____ Date: 11/29/03

Air Permit Manager:_____ Date: 11/29/03

Regional Director:_____ Date: 11/29/03

FACILITY INFORMATION

Permittee

Waste Management of Virginia, Inc.
P.O. Box 168
Amelia, Virginia 23002

Facility

Maplewood Recycling and Disposal Facility
20221 Maplewood Road
Jetersville, Virginia 23870

Responsible Official

Mr. Lee Wilson
Director of Landfill Operations

Contact Person

D. Richard Guidry
Area Compliance Director
(804) 966-8711

AIRS ID No. 51-007-0010

SOURCE DESCRIPTION

The Maplewood Recycling and Disposal Facility (the "Maplewood Facility") is a non-hazardous municipal solid waste (MSW) land recycling & disposal facility located at 20221 Maplewood Road, Jetersville, VA (Amelia County) and is operated by Waste Management of Virginia, Inc. Due to a name change, the facility also operates under the terms of Solid Waste Permit No. 540, issued to Chambers Waste Systems of Virginia, Incorporated. Their source industrial classification code number (SIC Code) is 4953.

This facility consists of a MSW landfill that is a generator of landfill gas, including non-methane organic compounds (NMOCs). Gas generated is collected and burned in an open flare system. The facility is a Title V major source of NMOCs as defined under the New Source Performance Standard (NSPS) WWW for MSW landfills. This source is located in an attainment area for all pollutants, and is not a PSD major source.

An Initial Design Capacity Report and Initial NMOC Emission Report, as required by 40 CFR 60.752(b), were included as part of the permittee's application for the NSR permit dated February 15, 1998. According to the application, the Maplewood Facility has a design capacity of 43,000,000 yd³. The landfill has an estimated minimum operating life of approximately 30 years based on the current amount of waste in place and the average expected acceptance rate.

The Maplewood Facility began accepting waste on April 30, 1993 and can receive waste by rail or road. Municipal solid waste (MSW) is disposed in sanitary landfill cells; decomposing waste produces landfill gas. The facility is permitted to construct and operate a 43,000,000 yd³ Municipal Solid Waste Facility and a landfill gas collection and control system (GCCS) using an open flare system for controlling NMOC emissions. The landfill is allowed by permit to sell the collected gas as fuel to internal combustion engines to produce electricity. Estimated VOC emission rates are reported at 80% of NMOCs per 61 FR 9912.

TITLE V PROGRAM APPLICABILITY BASIS:

The permitted design capacity of the Maplewood Facility is 32.9 million m³ (43 million cubic yards with a maximum compaction of 1700 lbs/yd³). Therefore, the landfill is regulated according to New Source Performance Standards (NSPS) Subpart WWW. As stated in 40 CFR 60.752 (b), landfills above 2.5 million m³ and 2.5 million Mg design capacity are subject to Title V permit requirements.

COMPLIANCE STATUS

The facility is inspected once per year. The landfill was found to be in compliance upon completion of the most recent inspection on April 29, 2003. The facility has certified to DEQ that it remains in compliance with all applicable requirements.

EMISSION UNIT AND CONTROL DEVICE IDENTIFICATION

The emissions units at this facility consist of the following:

Emission Unit ID	Stack ID	Emission Unit Description	Size/Rated Capacity*	Pollution Control Device (PCD) Description	PCD ID	Pollutant Controlled	Applicable Permit Date
P01		Municipal Solid Waste Landfill, Solid Waste Permit No. 540	43 million yd ³ with a maximum compaction of 1700 lbs/yd ³	Parnel Biogas Utility Flare	CF-1	NMOC	January 28, 2003
P002	CF-1	Landfill Gas (LFG) Collection and Control System, including wells, header pipes, a centrifugal blower system and Parnel Biogas Utility Flare	3000 scfm	n/a	n/a	n/a	January 28, 2003
LT1, LT2		leachate tanks	250,000 gallons each	n/a			

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

EMISSIONS INVENTORY

A copy of the 2002 emission inventory for facility NMOC and criteria pollutants is attached. Emissions are summarized in the following tables.

2002 Actual Emissions

	<i>2002 NMOC and Criteria Pollutant Emission in Tons/Year</i>				
Emission Unit	NMOC	VOC	SO₂	NO_x	PM₁₀
Landfill	71.97	26.51	3.00	8.21	3.03

(1) The NMOCs from the landfill are calculated using the Landfill Gas Emissions Model, Version 2.0. The calculation of emissions assumes average CH₄ fraction in landfill gas is 50%.

2002 Facility Hazardous Air Pollutant Emissions

2002 Hazardous Air Pollutant Emission in Tons/Yr
1.88

(2) HAP emission estimate is based on Landfill Gas Emissions Model, Version 2.0 default AP-42 factors.

EMISSION UNIT APPLICABLE REQUIREMENTS - [Landfill Emission unit]

Limitations

Since the Maplewood MSW landfill is subject to NSPS Subpart WWW (40 CFR 60.750), the Title V permit contains applicable requirements of this subpart. Consistent with requirements of WWW, all collected gas, from a cell or group of cells, is either controlled by a flare, Parnell Biogas Utility Flare (CF-1), (40 CFR 60.752), operated as required in 20 CFR 60.18, or routed to IC engines (40 CFR 60.752) for fuel to produce electricity. Expected gas generation flow rate and sufficient density has been determined and continues to be calculated according to 40 CFR 60.755. Monitoring and placement of each well has been performed and continues to be as required in 40 CFR 60.753.

The leachate tanks (LT1 and LT2), are subject to Subpart Kb, under the recordkeeping provisions because their size is greater than 10,000 gallons.

The Parnell Biogas Utility Flare (CF-1) shall operate to ensure that the vendor guaranteed emission factors for carbon monoxide and nitrogen oxides are met. The flare shall consume no more than 1,576,800,000 cubic feet of landfill gas combined per year, recorded by a gas flowmeter. The permittee has determined, and continues to monitor, the actual NMOC concentration and LFG flow rate and shall calculate the NMOC emission rate in accordance with 40 CFR 60.754 (b). The maximum expected gas flow rate shall be recalculated when additional cells are added to ensure proper handling. The gas collection system shall have an average collection efficiency of 75%. Emissions from the flare shall not exceed the limits specified for criteria pollutants in the permit. The permittee shall be in compliance with the items included in 40 CFR Part 63, Subpart AAAA by January 16, 2004.

The following conditions are found in the Stationary Source Permit dated January 28, 2003. The design capacity of Maplewood MSW landfill which includes Phases 1 through 34 is 43,000,000 yd³. No visible emissions should exist from the open flare except for periods not to exceed a total of 5 minutes during any 2 consecutive hours. Landfill gas and propane gas, used for ignition, are the approved fuels for the flare. Each wellhead should be maintained as required in 40 CFR 60.753. Emissions shall be controlled by proper

operation and maintenance of the LFG Collection and Control System equipment. The gas collection and control system shall be in operation when the collected gas is routed to it.

Monitoring

The landfill gas collection and control system shall be monitored and data recorded as required in Subpart WWW. As part of the periodic monitoring plan, methane monitoring requirements and monitoring instrumentation specifications and procedures shall be performed for compliance with the surface methane operational standard as required by 40 CFR 60.753 in accordance with 40 CFR 60.755. Exceedances of 500 parts per million above background are not a violation of the operational requirements of 60.753 if specified actions are taken. Third exceedances require actions specified in 40 CFR 60.755, monitoring resumes after specified actions have been taken. The operation of the gas collection system shall be monitored as required by 40 CFR 60.755 and 40 CFR 60.756.

The operation of the gas control system shall be monitored. If conditions are not being met, corrective actions shall be taken as specified in 40 CFR 60.755. If corrective actions are taken as specified, the monitored exceedance is not a violation of the operational requirements. The permittee shall take measures to minimize the duration and frequency of excess emissions, with respect to air pollution control equipment, monitoring devices, and process equipment which affect such emissions. Records of maintenance and training shall be maintained on site for a period of five years and shall be made available to DEQ personnel upon request.

Recordkeeping

The permit includes requirements for maintaining records of all monitoring and testing required by the permit. All records required by January 28, 2003 permit conditions and by Subpart WWW shall be available for inspection as required by 40 CFR 60.758. Records shall be readily accessible for the life of the control equipment to demonstrate compliance. The content and format of records shall be arranged with the Piedmont Regional Office.

Testing

The permit does not require emission tests. The initial performance test for the flare has been satisfied. The Department and EPA have authority to require testing not included in this permit if necessary to determine compliance with an emission limit or standard.

Reporting

Compliance reports shall be submitted annually to the U.S. Environmental Protection Agency and contain information required by 40 CFR 60.757. All reports and measurements required in Subpart WWW shall be prepared and submitted to Piedmont Regional Office.

The actual emissions covered by the permit program fees for the preceding year shall be calculated and submitted by the owner.

Streamlined Requirements

The following conditions of the January 28, 2003 Stationary Source Permit to Modify and Operate have not been included for the reasons provided:

Condition 4.a requiring operation of the active landfill gas collection and control system is redundant with the following conditions contained in Section IV. Limitation: A.3. The requirements of the conditions contained in the Title V Permit are more explicit in detail and as such, the condition from the NSR permit was not included.

Condition 4.b requiring cells to have the gas collected and controlled by specific dates has not been included. The corresponding NSPS requirement has been combined with this condition at IV.A.6.

Condition 4.h has not been entirely included. The required installation of an open flare was completed in 1999.

Condition 17 has not been included. The required Initial Performance Tests have been completed.

Condition 19 has not been included. The required Visible Emission Evaluations were completed.

Condition 23 requiring installation, operation, monitoring of Parnell Biogas Utility Flare has been performed in 1999.

Condition 31 requiring written notification of construction, start-up, and performance tests of open flares has been completed.

The following sections of NSPS Subpart WWW have not been included for the reasons provided:

60.752 (a) - not applicable because landfill is already greater than 2.5 million cubic meters

60.752(b)(1) - not applicable because the calculated NMOC is greater than 50 megagrams

60.752(b)(ii)(B) - N/A, active system installed

60.754(a)(1)(ii), and 60.654(a)(3), (4) and (5)- have already been met since the collection and control system required by 60.572(b)(2) has been installed.

60.754(b) - has already been met since the collection and control system required by 60.572(b)(2) has been installed.

60.754(c) – the NSR permit limits emissions to less than the PSD significance levels.

60.754(d) - this only applies to source using control option under 60.752(b)(2)(iii)(B). This source uses the option under 60.752(b)(2)(iii)(A).

60.755(a)(1)(i) – waste acceptance rates are known for this landfill

60.755(a)(4) -This exception to the expansion requirement is not included in the T5 draft since more than 180 days has elapsed since system startup, this exception is no longer available to the source.

60.755(a)(6) - the source has not sought approval for a system that does not meet 60.759 specifications.

60.756(b) - source does not use an enclosed combustor.

60.756(c)(2)(ii) - source is required to install and operate the flow meter by the NSR permit therefore this option is not available.

60.756(d) - source is using open flare controls.

60.756(e) - Source did not seek to install a control system that does not meet 60.752 requirements

Part of 60.756(f) - The NSR does not include provisions for this exception and therefore it is not included in the draft T5.

60.757(a)- this is no longer applicable because the “initial” design capacity report has been received and approved, and this landfill is already over 2.5 million cubic meters & 2.5 million megagrams.

60.757(b) - initial NMOC report has been submitted, and source has installed collection and control system per 60.752(b)(2) and is therefore not subject per 60.757(b)(3)

60.757(c) - This has already been met and therefore can be streamlined out of the T5

60.757(g)(6) - Initial performance test have been completed & accepted.

60.758(b)(2), (3) and 60.758(c)(1) - does not apply because this source uses open flare controls

Part of 60.758(c)(2) - bypass not provided for in permit

60.758(c)(3) - this source does not use boiler or process heater to control NMOC.

60.758(f) - landfill capacity greater than 2.5 million cubic meters and 2.5 million megagrams

60.759(b)(2) - Not included except by general reference to waste permit

GENERAL CONDITIONS

The permit contains general conditions required by 40 CFR Part 70 and 9 VAC 5-80-110, that apply to all Federal operating permit sources. These include requirements for submitting semi-annual monitoring reports and an annual compliance certification report. The permit also requires notification of deviations from permit requirements or any excess emissions.

Comments on General Conditions

B. Permit Expiration

This condition refers to the Board taking action on a permit application. The Board is the State Air Pollution Control Board. The authority to take action on permit application(s) has been delegated to the Regions as allowed by 2.1-20.01:2 and 910.1-1185 of the *Code of Virginia*, and the “Department of Environmental Quality Agency Policy Statement NO. 3-2001”.

This general condition cites the entire Article(s) that follow:

- B.2. Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Permits for Stationary Sources
- B.3. Article 1 (9 VAC 5-80-50 et seq.), Part II of 9 VAC 5 Chapter 80. Federal Permits for Stationary Sources

This general condition cites the sections that follow:

- B. 9 VAC 5-80-80. “Application”

- B.2. 9 VAC 5-80-150. "Action on Permit Applications"
- B.3. 9 VAC 5-80-80. "Application"
- B.4. 9 VAC 5-80-80. "Application"
- B.4. 9 VAC 5-80-140. "Permit Shield"
- B.5. 9 VAC 5-80-80. "Application"

E. and F. Permit Deviation and Failure/Malfunction Reporting

The regulations contain two reporting requirements for emission exceedances. The two reporting requirements are malfunctions (9 VAC 5-20-180) and deviation reporting (9 VAC 5-80-250) requirements. Title V facilities are subject to both reporting requirements. The Department will accept a single report for each reportable failure, malfunction, or deviation meeting the requirement of 9 VAC 5-20-180 and 9 VAC 5-80-250.

Conditions E and F cite the sections that follow:

- 9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction
- 9 VAC 5-40-41. Emissions Monitoring Procedures for Existing Sources
- 9 VAC 5-40-50. Notification, Records and Reporting
- 9 VAC 5-50-50. Notification, Records and Reporting
- 9 VAC 5-80-110. Permit Content
- 9 VAC 5-80-250. Malfunction

This general condition contains a citation from the Code of Federal Regulations as follows:
40 CFR 60.13 (h). Monitoring Requirements.

J. Permit Action for Cause

This general condition cites the sections that follow:

- 9 VAC 5-80-110. "Reopening for Cause"
- 9 VAC 5-80-240. "Permit Content"
- 9 VAC 5-80-260. "Enforcement"

K Permit Modification

This general condition cites the sections that follow:

- 9 VAC 5-80-50. "Applicability", Federal Operating Permit For Stationary Sources"
- 9 VAC 5-80-90. "Application Information Required"
- 9 VAC 5-80-110. "Permit Content"
- 9 VAC 5-80-1100. "Applicability", Permits For New and Modified Stationary Sources"
- 9 VAC 5-80-1790. "Applicability", Permits For Major Stationary Sources and Modifications Located in Prevention of Significant Deterioration Areas"
- 9 VAC 5-80-2000. "Applicability", Permits for Major Stationary Sources and Major Modifications Locating in Nonattainment Areas"

U. Malfunction as an Affirmative Defense

The regulations contain two reporting requirements for malfunctions that coincide. The reporting requirements are listed in section 9 VAC 5-80-250 and 9 VAC 5-20-180. The malfunction requirements are listed in General Condition U and General Condition F. For further explanation see the comments on general condition F.

This general condition cites the sections that follow:

- U.2.d. 9 VAC 5-80-110. Permit Content
- U.2.d. 9 VAC 5-20-180. Facility and Control Equipment Maintenance or Malfunction

Z. Asbestos Demolition and Renovation Requirements

The Virginia Department of Labor and Industry under Section 40.1-51.20 of the Code of Virginia also holds authority to enforce 40 CFR 61.140, Standards for demolition and renovation.

This general condition contains a citation from the Code of Federal Regulations as follows:

40 CFR 61.146, NESHAPs Subpart M. National Emissions Standards for Asbestos as it applies to demolition and renovation.

This general condition cites the general condition that follows:

9 VAC 5-60-70. Designated Emissions Standards

9 VAC 5-80-110. Permit Content

STATE ONLY APPLICABLE REQUIREMENTS

No state only applicable requirements apply to this facility and none have been included in the permit.

FUTURE APPLICABLE REQUIREMENTS

The facility is subject to 40 CFR 63 Subpart AAAA, which was published January 16, 2003 and must meet requirements by January 16, 2004. The permit contains a section for future applicable requirements.

INAPPLICABLE REQUIREMENTS

9 VAC 5-40-5800 has been identified as inapplicable to this facility.

COMPLIANCE PLAN

This facility has been inspected and found to be in compliance. No compliance plan is needed for this facility.

INSIGNIFICANT EMISSION UNITS

The insignificant emission units are presumed to be in compliance with all requirements of the Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110. Insignificant emission units are included within a table in the permit

CONFIDENTIAL INFORMATION

The permittee did not submit a request for confidentiality. All portions of the Title V application are suitable for public review.

PUBLIC PARTICIPATION

The proposed permit will be placed on public notice in the Richmond Times-Dispatch from September 13, 2003 to October 13, 2003.